

A Brief Introduction to Winlink 2000

Winlink 2000 is a worldwide radio messaging system that takes advantage of the Internet where possible. It does this in order to allow the end-user more radio spectrum on the crowded spectrum. Currently, there are more than 15,000 radio users and approximately 100,000 Internet recipients. Monthly traffic averages over 150,000 messages. Growth of the system is dependent on the various users, including normal Amateur use, emergency communications organizations such as the ARRL ARES® and RACES, the three MARS branches, and others. Most recently there has been an increasing interest in emergency communications, and the Winlink 2000 development team has responded by adding features and functions that make the system more reliable, flexible and redundant. The role of Winlink 2000 in emergency communications is to supplement existing methods, to add another tool in the toolkit of the volunteer deploying emergency communications in their communities.

Winlink 2000 has been assisting several agencies for several years now. Only recently has it been brought to the attention of the greater emergency communications community due to recent domestic disasters.

Over the last several years, the system is used almost daily by the maritime community for locating lost vessels. The US Coast Guard requests the location and condition of vessels from the 7,500 plus maritime Winlink users on an on-going basis. In addition, during the Asian Tsunami, Winlink 2000 maritime users played an important role in early communications. Such acts went unnoticed until the domestic weather disasters brought Winlink 2000 to the attention of many, including a positive mention in post-Katrina reports from the US House of Representatives as well as the White House.

Several years ago, the Department of Homeland Security suggested to the ARRL president that the Amateur community should design and maintain a national digital network for emergency communications purposes. Winlink 2000 was their network of choice. Today, the ARRL Amateur Radio Emergency Service® (ARES) and Radio amateur civil emergency service (RACES) has been busy deploying Winlink 2000 county by county across the country. In addition other non-Amateur volunteer services such as the Army Military Affiliate Radio System, the Salvation Army, the GA Baptist Relief organization, and many other such agencies have utilized Winlink 2000 for their radio e-mail, both in emergencies and when no other communications outlets have been available. These most recent activities resulted from the use of Winlink 2000 during domestic hurricane disasters.

The Winlink 2000 system is a "star" based network containing several mirror images, redundant COMMON MESSAGE SERVERS (CMS). These ensure that the system will remain in operation should any chunk of the Internet become inoperative. Each Radio Message Server node (RMS) is tied together as would be the ends of a spoke on a wheel with the hubbing being done by the Common Message Servers. Traffic goes in and out between the CMS and the Internet email recipient, and between the end users and the Radio Message Server gateways.

Because Winlink 2000 uses de facto e-mail as its format, it provides direct Radio users and Internet third-party user's seamless, transparent email with attachments of reasonable size without any additional stress or learning curve. Users can utilize common software like outlook express and other common email clients allowing persons to use the system with little or no new training. This allows any mobile or portable operation to interface into the Internet e-mail system from virtually anywhere in the World.

Because each Radio Message Server gateway is a mirror image of the next, it does not matter which station is used. They all look the same. The Winlink 2000 network is now postured for any domestic disaster with point-to-multipoint digital Radio e-mail.

For Amateur Radio Emergency Services, like any other communications system, the effectiveness of Winlink 2000 is only as good as those who have planned for its use. One of the most valuable lessons learned from the Hurricane Katrina disaster has been the ability of those deploying the system for their own communities, to build continual relationships with the agencies they wish to serve. After all, it is their "customer" who Winlink 2000 serves, and volunteers using this digital radio messaging system, must bring its capabilities to those who need them, before the system can be effective.